

ABSTRACT OF THE DISCLOSURE

An acoustic resonator includes a ferromagnetic compensator which at least partially offsets temperature-induced effects introduced by an electrode-piezoelectric stack. The compensator has a positive temperature coefficient of frequency, while the stack has a negative temperature coefficient of frequency. By properly selecting the thickness of the compensator, temperature-induced effects on resonance may be neutralized. Alternatively, the thickness can be selected to provide a target positive or negative composite temperature coefficient of frequency. In the preferred embodiment, the compensator is formed of a nickel-iron alloy, with the most preferred embodiment being one in which the alloy is approximately 35% nickel and approximately 65% iron. In order to prevent undue electromagnetic losses in the ferromagnetic compensator, a metallic flashing layer may be added to at least partially enclose the compensator.